GLA UNIVERSITY

Analysis of Sentiment in Social Media Posts

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DECLARATION

We hereby declare that work which is being presented in the MINI Project 2 "**Analysis of Sentiment in Social Media Posts**" in partial fulfillment of the requirements for MINI Project, is a authentic record of our own work carried by the team members under the supervision of our mentor

Mr. Mohd. Amir Khan sir

Group Members

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Course: B.Tech (Computer Science and Engineering)

Year: 3rd

Semester: 6th

Supervised By:

Mr. Mohd. Amir Khan

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ACKNOWLEDGEMENT

We would like to express our profound gratitude and deep regards to our mentor **Mr. Mohd. Amir Khan** for her exemplary guidance, monitoring and constant encouragement throughout the course of this project. We are profoundly grateful towards the unmatched services rendered by him.

Certificate

This is to certify that the above statements made by the candidates are correct to the best of my/our knowledge and belief

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Supervisor

Mr. Mohd. Amir Khan

(Technical Trainer)

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INTRODUCTION

The project "Analysis of Sentiment in Social Media Posts using Machine Learning and Natural Language Processing" aims to develop a system that can automatically analyze the sentiment of social media posts using machine learning and natural language processing techniques.

About the Project

The project aims to combine machine learning, natural language processing, and data analysis techniques to develop a useful application that can help businesses or individuals monitor social media sentiment and make informed decisions. To develop this system, the project will use natural language processing techniques such as tokenization, stemming, and stop-word removal to preprocess the dataset and extract relevant features. Machine learning algorithms such as Naive Bayes, Support Vector Machines, or Random Forests will be used to train a sentiment classification model on the labeled dataset. The performance of the model will be evaluated using metrics such as accuracy, precision, and recall.

Primary reason to choose this project

The system will take in a large dataset of social media posts and will perform sentiment analysis on them. This analysis will classify each post as having a positive, negative, or neutral sentiment.

The Main Objective of the Project

The main objective of the project will be able to gain knowledge about machine learning technologies, as we are going to add information about CURRENT HUMAN BEHAVIOUR ON SOCIAL MEDIA AND IMPACT OF SOCIAL MEDIA POSTS ON SENTIMENTS , as from this project model we might be helping one to analyse their sentiments regarding post they see or like as as having a positive, negative, or neutral sentiment .

Scope of the Project

Finally, the sentiment analysis system will be deployed on a web platform to allow users to input social media posts and get real-time sentiment analysis results.

Scope concludes :

1.Data Collection: The project will involve collecting a large dataset of social media posts, such as tweets or Facebook updates, from various sources.

2.Data Preprocessing: The text data will be preprocessed using natural language processing techniques such as tokenization, stemming, and stop-word removal to extract relevant features and remove noise from the dataset.

3.Sentiment Classification Model: The project will train a sentiment classification model using machine learning algorithms such as Naive Bayes, Support Vector Machines, or Random Forests. The model will learn to classify social media posts as having a positive, negative, or neutral sentiment.

4.Evaluation Metrics: The performance of the sentiment classification model will be evaluated using metrics such as accuracy, precision, and recall.

5.Web Platform: The sentiment analysis system will be deployed on a web platform to allow users to input social media posts and get real-time sentiment analysis results.

- The project aims to develop a robust sentiment analysis system that can accurately classify social media posts based on their sentiment. The project does not include any manual annotation of the dataset, and the sentiment classification will be done automatically using machine learning algorithms. The scope of the project may be limited to a specific social media platform or language, depending on the availability of the dataset and the technologies used.

Working Methodology of the Project

The working methodology for the project involves a combination of data collection, data preprocessing, feature extraction, machine learning model training, evaluation, and deployment. The methodology will require a good understanding of natural language processing, machine learning algorithms,

Details About the Hardware and the Software

System Requirements: -

Supported Operating Systems: - Windows 7, 8, 10 and 11

Software Required:

- Web Browser like Google Chrome, Microsoft Edge, for using Google colab
- IDE like Visual Studio Code, Eclipse, etc.

Hardware Requirements: -

Laptop.

For Visual Studio Code and Eclipse: -

- **1.6 GHz or faster processor**
- **1 GB of RAM**

References:

- David Osimo and Francesco Mureddu, "Research challenge on Opinion Mining and Sentiment Analysis"
- [2] Maura Conway, Lisa McInerney, Neil O'Hare, Alan F. Smeaton, Adam Berminghan, "Combining Social Network Analysis and
- Sentiment to Explore the Potential for Online Radicalisation,"
- Centre for Sensor Web Technologies and School of Law
- **Kaggle for dataset and youtube.**

Links :

- Train dataset: https://raw.githubusercontent.com/dD2405/Twitter_Sentiment_Analysis/master/train.csv
- Test dataset : https://raw.githubusercontent.com/dD2405/Twitter_Sentiment_Analysis/master/test.csv
- twitter image : http://clipart-library.com/image_gallery2/Twitter-PNG-Image.png
- google colab link to source code : https://colab.research.google.com/drive/1TTExXT86hZ9tRpTQFAcyaby6u8ayXKTH#scrollTo=PdhSISZQi2sz